

## CLAIMS

1. Mattress comprising air inlets (4), an electric compressor (12), electric valves (14), a control unit (15), an automatic switch (18), one or more pressure sensors (20) and an external cover (1) in which a padding (2) including air chambers (3) suitable  
5 for being inflated for supporting the body of at least one user is arranged, wherein the air chambers (3) are connected by means of the air inlets (4) to the electric compressor (12) for sucking air from the outside and pump it into the air chambers (3), said inlets (4) being provided with the electric valves (14) connected to the control unit (15) which is in turn connected to the automatic switch (18) arranged along an electric line between  
10 the compressor (12) and an electric power source (19), wherein the control unit (15) opens or closes the electric valves (14) and/or the automatic switch (18) according to control signals coming from the pressure sensors (20), wherein the air chambers (3) are grouped into one or more groups (A, B, C, D) of mutually connected air chambers (3), characterized in that the pressure sensors (20) measure the pressure in air chambers (3)  
15 of one group (A, B, C, D), differing from the air chambers (3) of the same group (A, B, C, D) connected to the inlets (4).

2. Mattress according to the previous claim, characterized in that the groups (A, B, C, D) of air chambers (3) are connected to the outside through outlets (17) provided with electric valves (16) connected to the control unit (15).

20 3. Mattress according to one of the previous claims, characterized in that said electric valves (14, 16) are normally closed.

4. Mattress according to one of the previous claims, characterized in that the pressure sensors (20) are arranged on the side opposite to the inlets (4) and/or the outlets (17).

25 5. Mattress according to one of the previous claims, characterized in that the padding (2) has a substantially parallelepiped shape with four side wall and a base made of polyurethane foam.

6. Mattress according to one of the previous claims, characterized in that the air chambers (3) have a substantially parallelepiped shape and are arranged in the  
30 padding (2), between its side walls and above its base, along more horizontal rows and columns so as to form at least one uniform layer of alveoli.

15. Mattress according to one of the previous claims, characterized in that the control unit (15) can communicate with an external remote control (22) for modifying the pressure in one or more air chambers (3).

7. Mattress according to one of the previous claims, characterized in that the air chambers (3) are grouped into four groups (A, B, C, D) of air chambers (3) mutually connected in each group, said four groups corresponding to the head zone (A), the lumbar zone (B), the sacral zone (C) and the leg zone (D) of the user, respectively,  
5 the depth of which is greater than the depth of any other zone (A, B or C).

8. Mattress according to one of the previous claims, characterized in that the air chambers (3) are obtained by an upper sheet (6) of a deformable material, which is shaped so as to form a plurality of alveoli with a substantially parallelepiped shape which are open downwards and are mutually connected by stripes of the same material  
10 along their lower edges, a lower sheet (7) of a deformable material being welded along said stripes so as to hermetically close the alveoli and to obtain the air chambers (3).

9. Mattress according to claim 8, characterized in that the air chambers (3) communicate with one or more adjacent air chambers (3) through a slit (8) made between the upper sheet (6) and the lower sheet (7) by preventing the welding between  
15 the two sheets (6, 7) along a portion of the stripe which joins the lower edges of the relevant alveoli.

10. Mattress according to one of the previous claims, characterized in that reinforcing members (9) which have a complementary shape and a smaller size with respect to the inside of the air chambers (3) and are made of a deformable material, are  
20 arranged in the air chambers (3).

11. Mattress according to one of the previous claims, characterized in that a flexible net (10) is arranged on the air chambers (3).

12. Mattress according to one of the previous claims, characterized in that a sheet (11) of a deformable material suitable for keeping the deformed shape for a  
25 determinate period is arranged on the air chambers (3).

13. Mattress according to one of the previous claims, characterized in that the control unit (15) is provided or connected with at least one digital memory (21) suitable for storing the pressure values in one or more air chambers (3).

14. Mattress according to claim 13, characterized in that the digital memory  
30 (21) comprises more series of pressure values which can be selected by the control unit (15) according to the users' weight.